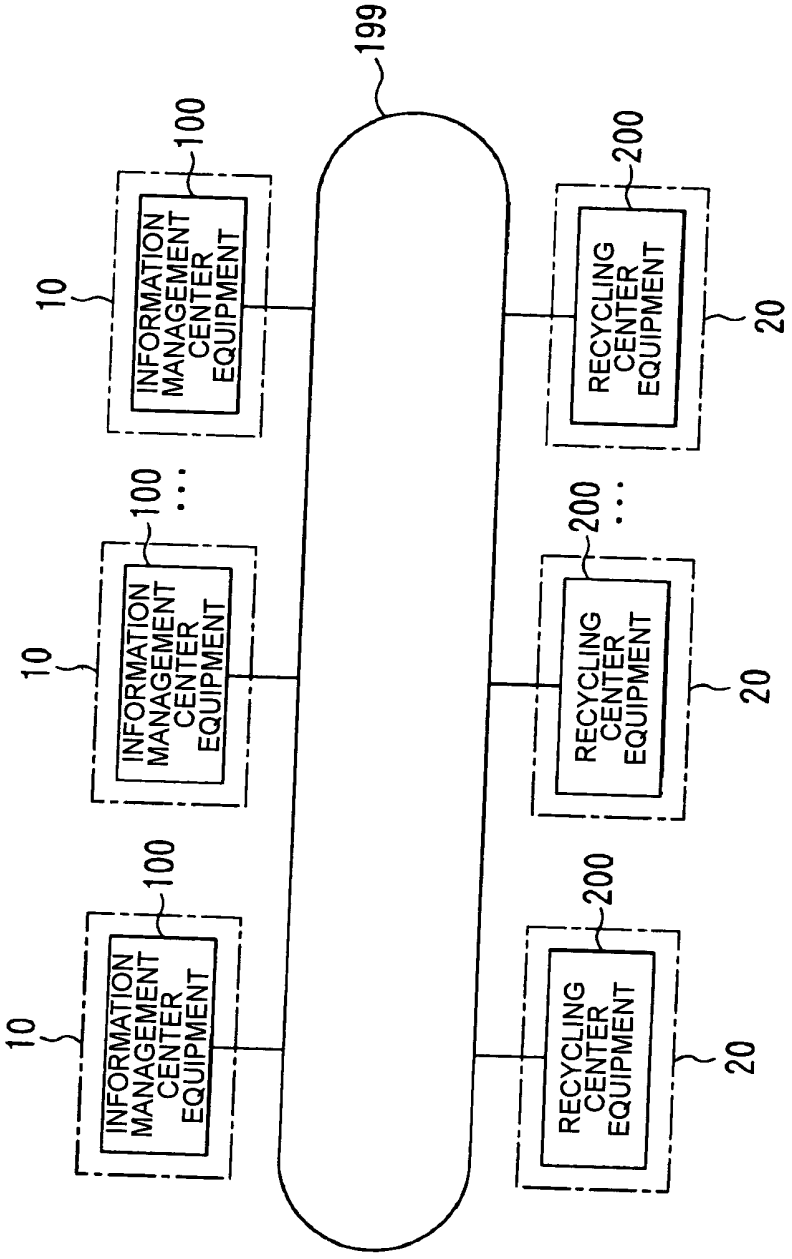
199
10
100
INFORMATION MANAGEMENT CENTER EQUIPMENT
200
RECYCLING CENTER EQUIPMENT
20

FIG. 1

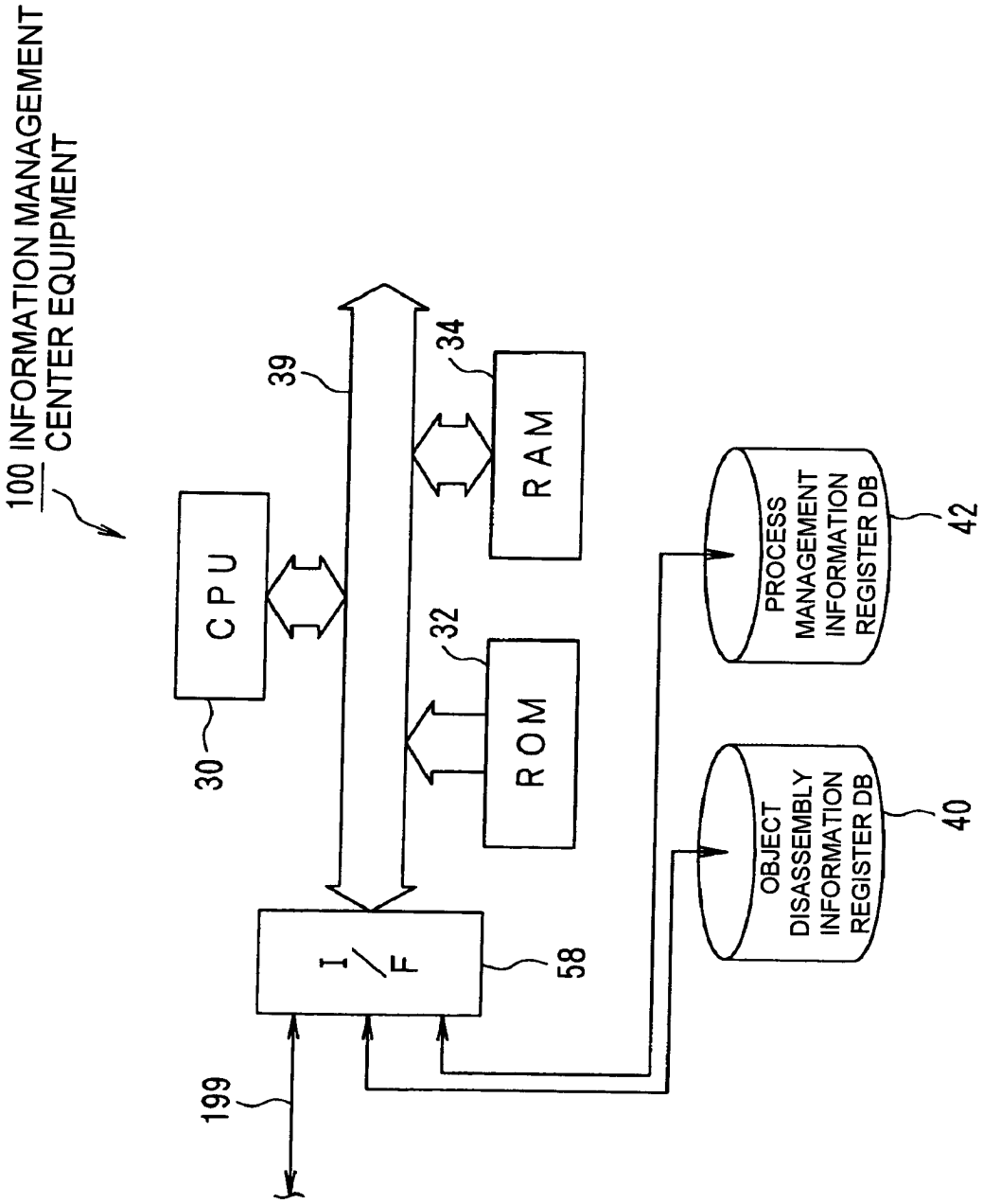
100 INFORMATION MANAGEMENT CENTER EQUIPMENT
CPU
30
RAM
34
ROM
32
39
I/F
58
199
PROCESS MANAGEMENT INFORMATION REGISTER DB
42
OBJECT DISASSEMBLY INFORMATION REGISTER DB
40

FIG. 2

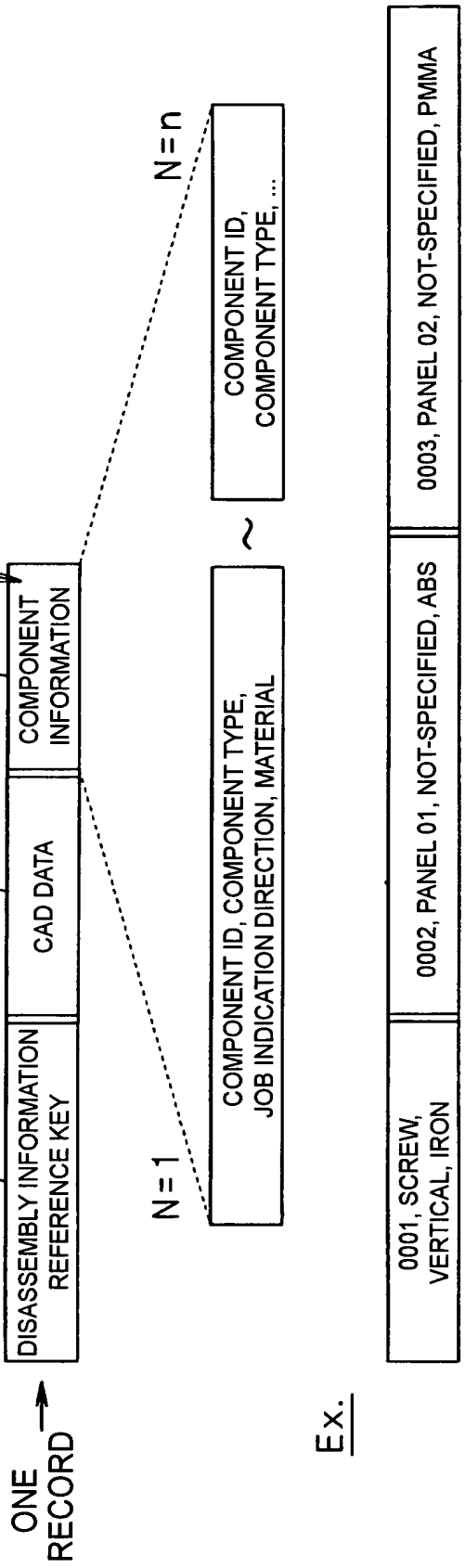
ONE RECORD
400
DISASSEMBLY INFORMATION REFERENCE KEY
402
CAD DATA
404
COMPONENT INFORMATION
STORAGE OF COMPONENTS ONLY REQUIRED FOR DISPLAY
N = 1
COMPONENT ID, COMPONENT TYPE, JOB INDICATION DIRECTION, MATERIAL
N = n
COMPONENT ID, COMPONENT TYPE, ...
Ex.
0001, SCREW, VERTICAL, IRON
0002, PANEL 01, NOT-SPECIFIED, ABS
0003, PANEL 02, NOT-SPECIFIED, PMMA

FIG. 3

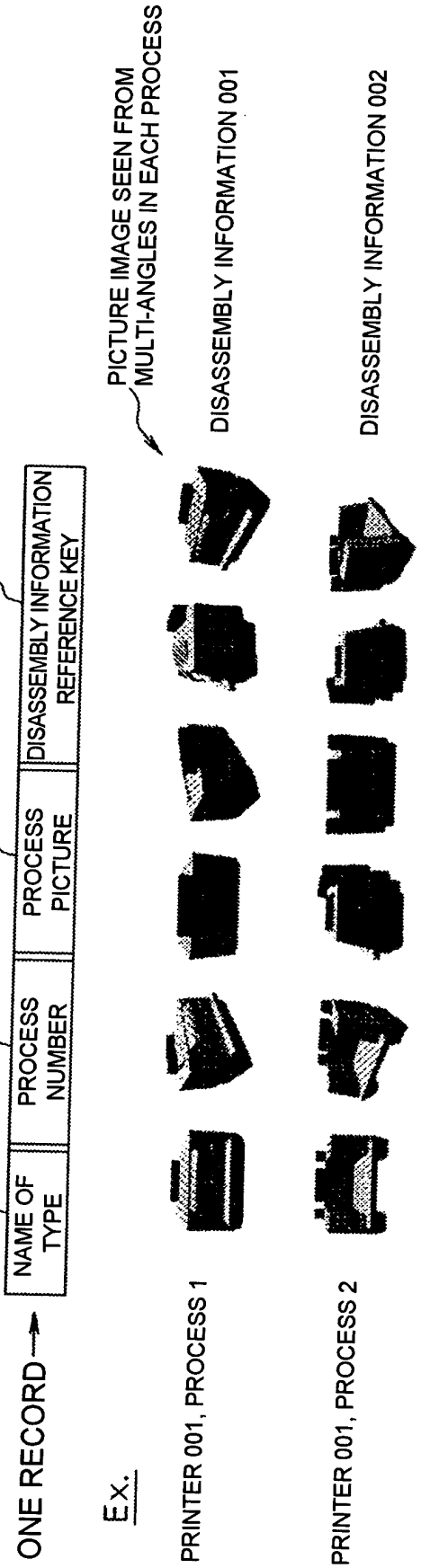
ONE RECORD
420
NAME OF TYPE
422
PROCESS NUMBER
424
PROCESS PICTURE
426
DISASSEMBLY INFORMATION REFERENCE KEY
PICTURE IMAGE SEEN FROM MULTI-ANGLES IN EACH PROCESS
DISASSEMBLY INFORMATION 001
DISASSEMBLY INFORMATION 002
Ex.
PRINTER 001, PROCESS 1
PRINTER 001, PROCESS 2

FIG. 4

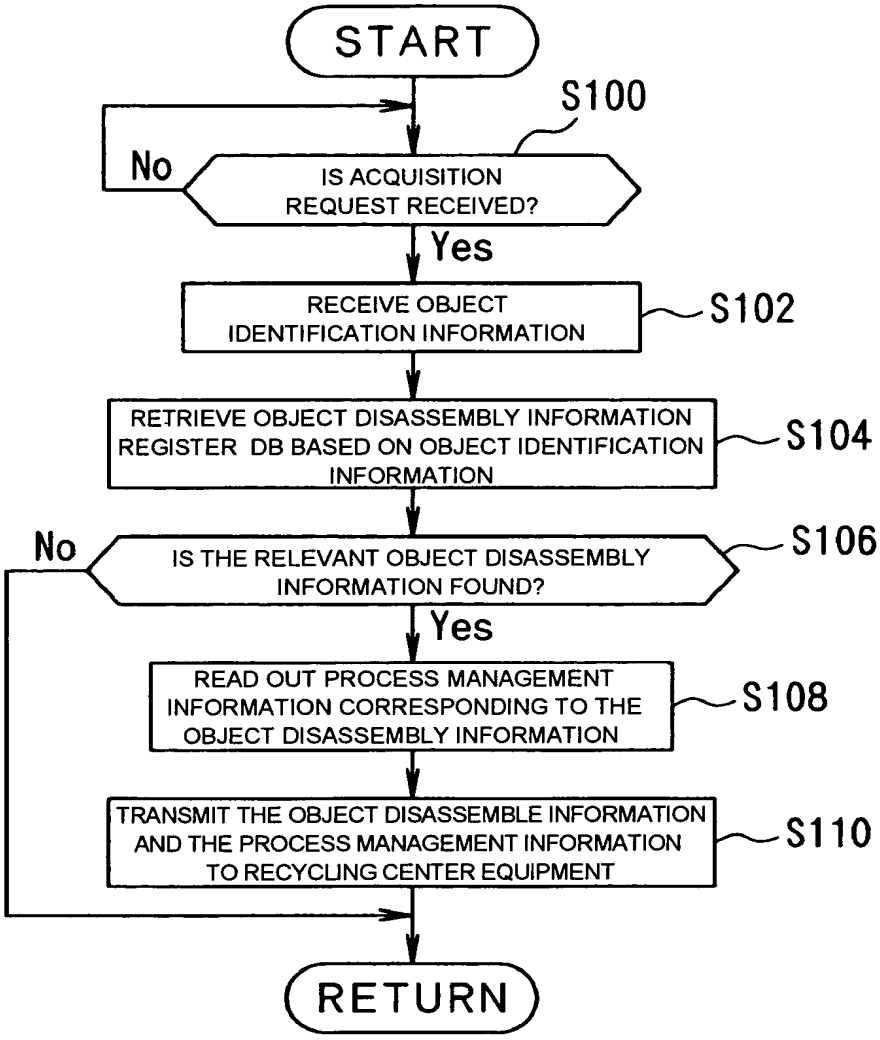
START
S100
No
IS ACQUISITION REQUEST RECEIVED?
Yes
RECEIVE OBJECT IDENTIFICATION INFORMATION
S102
RETRIEVE OBJECT DISASSEMBLY INFORMATION REGISTER DB BASED ON OBJECT IDENTIFICATION INFORMATION
S104
No
IS THE RELEVANT OBJECT DISASSEMBLY INFORMATION FOUND?
S106
Yes
READ OUT PROCESS MANAGEMENT INFORMATION CORRESPONDING TO THE OBJECT DISASSEMBLY INFORMATION
S108
TRANSMIT THE OBJECT DISASSEMBLE INFORMATION AND THE PROCESS MANAGEMENT INFORMATION TO RECYCLING CENTER EQUIPMENT
S110
RETURN

FIG. 5

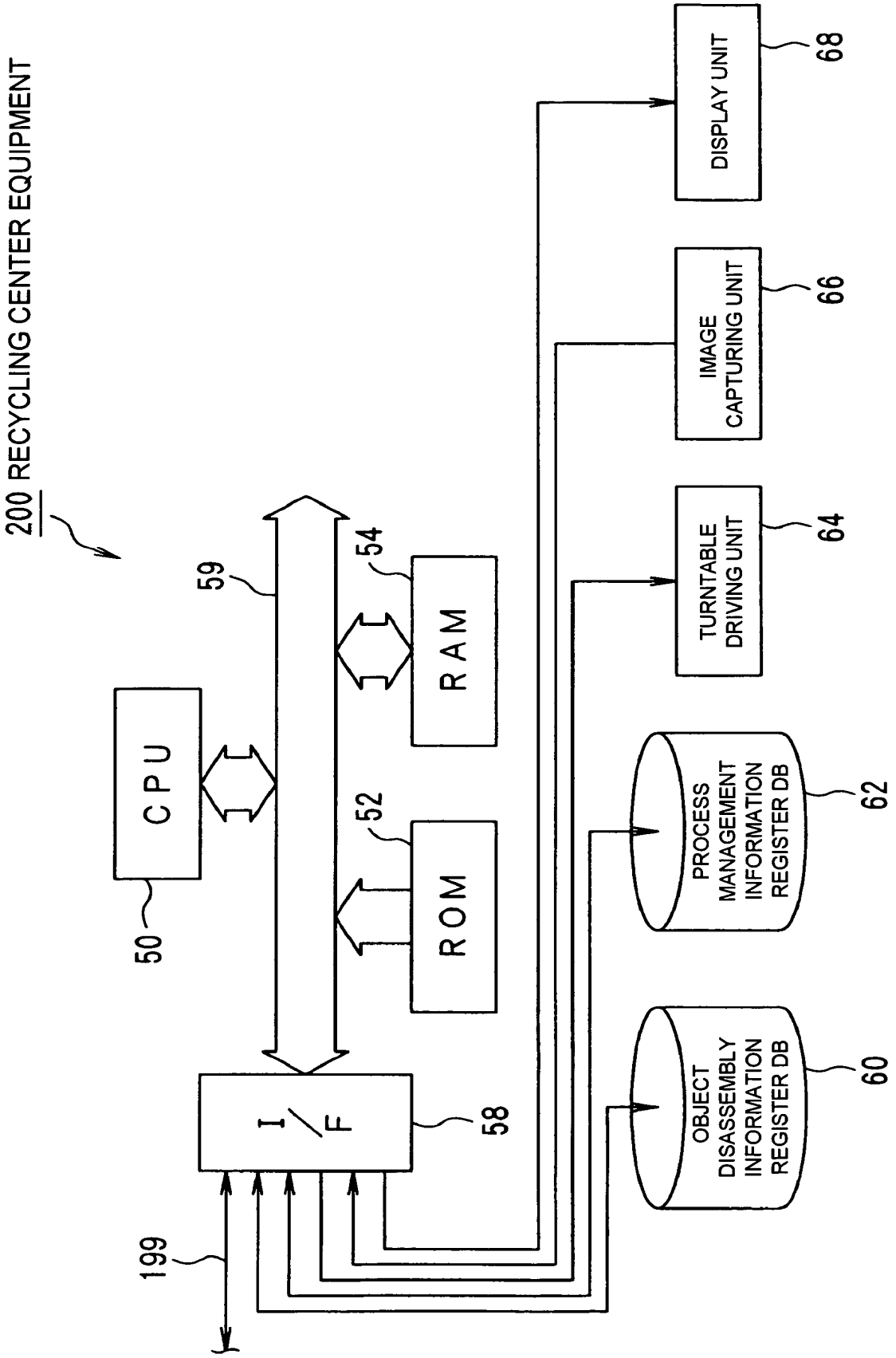
200 RECYCLING CENTER EQUIPMENT
CPU
50
59
54
RAM
52
ROM
I/F
58
199
DISPLAY UNIT
68
IMAGE CAPTURING UNIT
66
TURNTABLE DRIVING UNIT
64
PROCESS MANAGEMENT INFORMATION REGISTER DB
62
OBJECT DISASSEMBLY INFORMATION REGISTER DB
60

FIG. 6

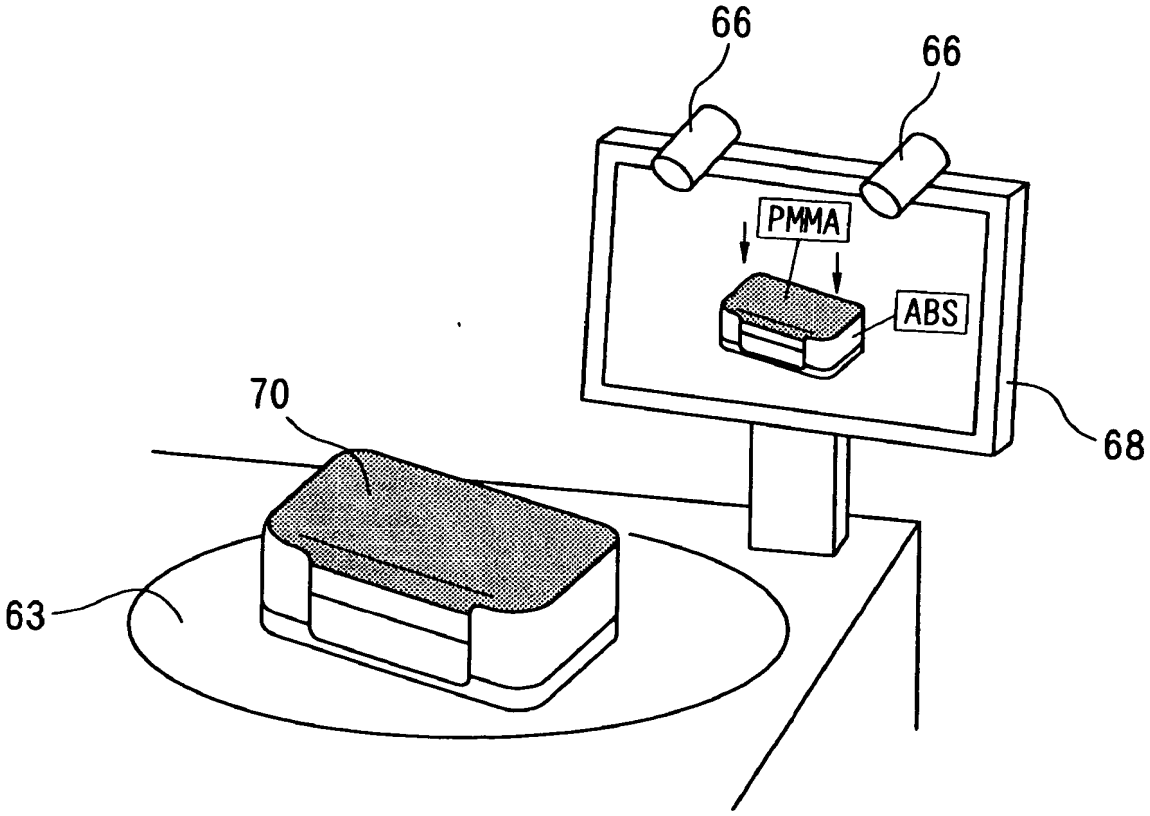

FIG. 7

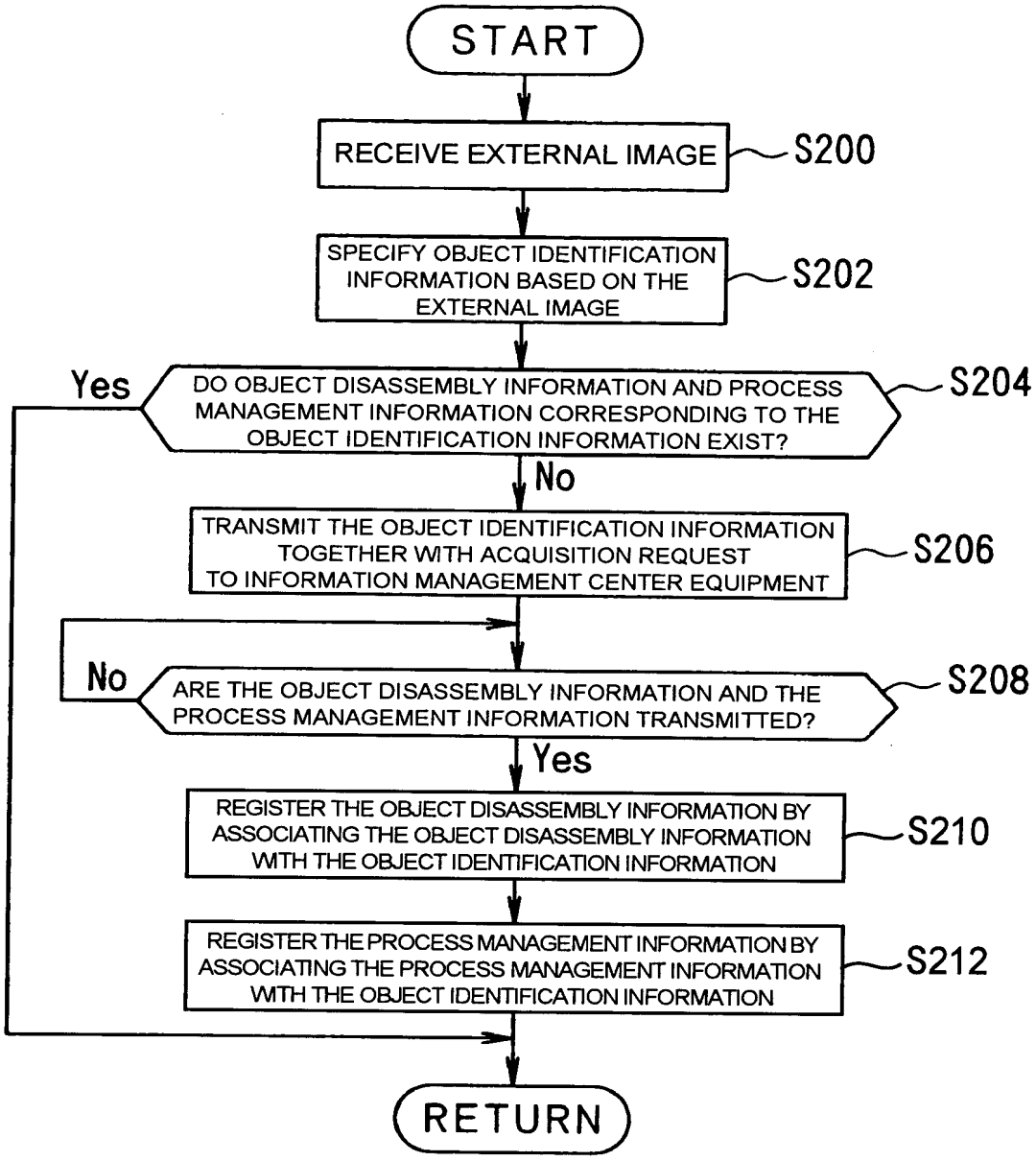
START
RECEIVE EXTERNAL IMAGE
S200
SPECIFY OBJECT IDENTIFICATION INFORMATION BASED ON THE EXTERNAL IMAGE
S202
Yes
DO OBJECT DISASSEMBLY INFORMATION AND PROCESS MANAGEMENT INFORMATION CORRESPONDING TO THE OBJECT IDENTIFICATION INFORMATION EXIST?
S204
No
TRANSMIT THE OBJECT IDENTIFICATION INFORMATION TOGETHER WITH ACQUISITION REQUEST TO INFORMATION MANAGEMENT CENTER EQUIPMENT
S206
No
ARE THE OBJECT DISASSEMBLY INFORMATION AND THE PROCESS MANAGEMENT INFORMATION TRANSMITTED?
S208
Yes
REGISTER THE OBJECT DISASSEMBLY INFORMATION BY ASSOCIATING THE OBJECT DISASSEMBLY INFORMATION WITH THE OBJECT IDENTIFICATION INFORMATION
S210
REGISTER THE PROCESS MANAGEMENT INFORMATION BY ASSOCIATING THE PROCESS MANAGEMENT INFORMATION WITH THE OBJECT IDENTIFICATION INFORMATION
S212
RETURN

FIG. 8

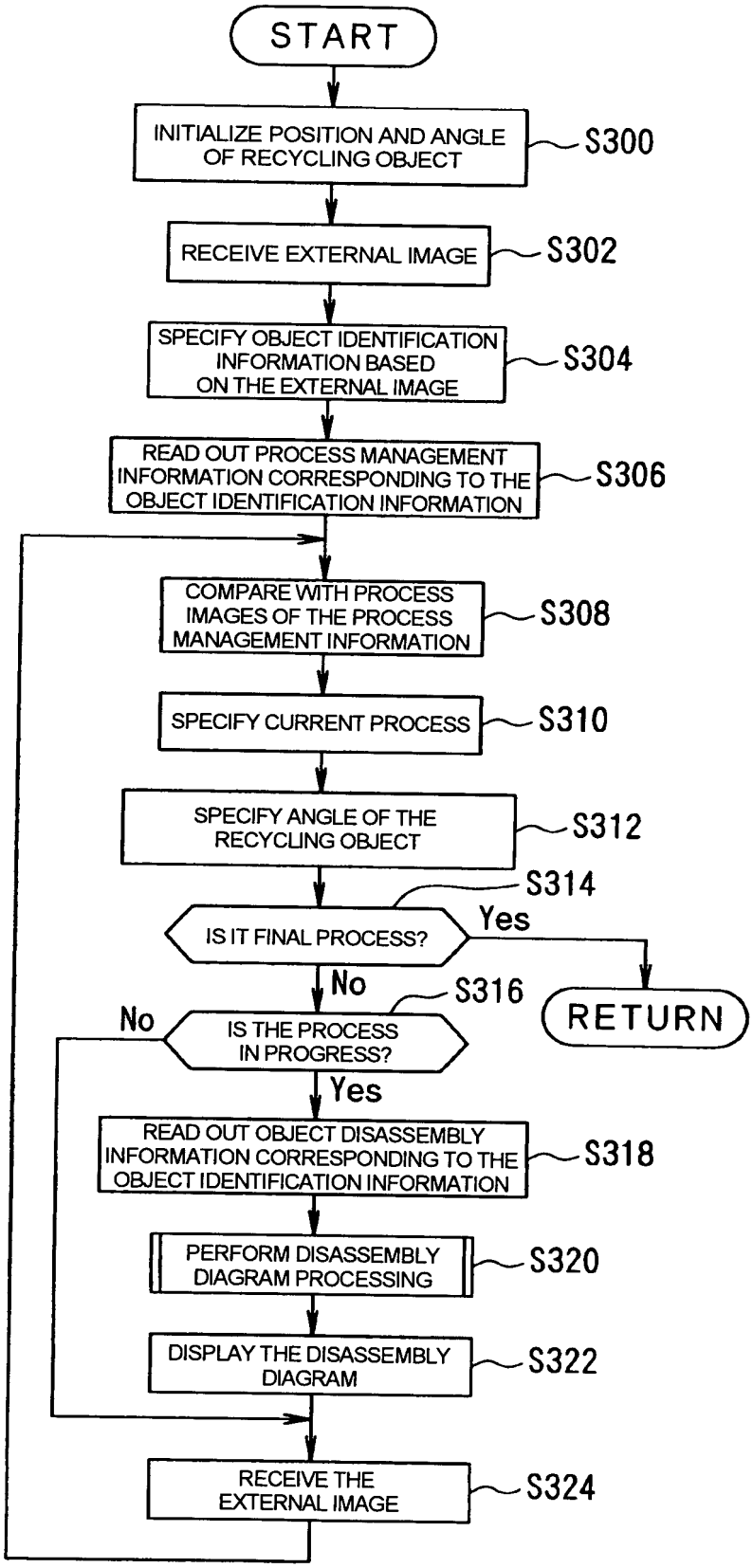
START
INITIALIZE POSITION AND ANGLE OF RECYCLING OBJECT
S300
RECEIVE EXTERNAL IMAGE
S302
SPECIFY OBJECT IDENTIFICATION INFORMATION BASED ON THE EXTERNAL IMAGE
S304
READ OUT PROCESS MANAGEMENT INFORMATION CORRESPONDING TO THE OBJECT IDENTIFICATION INFORMATION
S306
COMPARE WITH PROCESS IMAGES OF THE PROCESS MANAGEMENT INFORMATION
S308
SPECIFY CURRENT PROCESS
S310
SPECIFY ANGLE OF THE RECYCLING OBJECT
S312
S314
IS IT FINAL PROCESS?
Yes
RETURN
No
S316
No
IS THE PROCESS IN PROGRESS?
Yes
READ OUT OBJECT DISASSEMBLY INFORMATION CORRESPONDING TO THE OBJECT IDENTIFICATION INFORMATION
S318
PERFORM DISASSEMBLY DIAGRAM PROCESSING
S320
DISPLAY THE DISASSEMBLY DIAGRAM
S322
RECEIVE THE EXTERNAL IMAGE
S324

FIG. 9

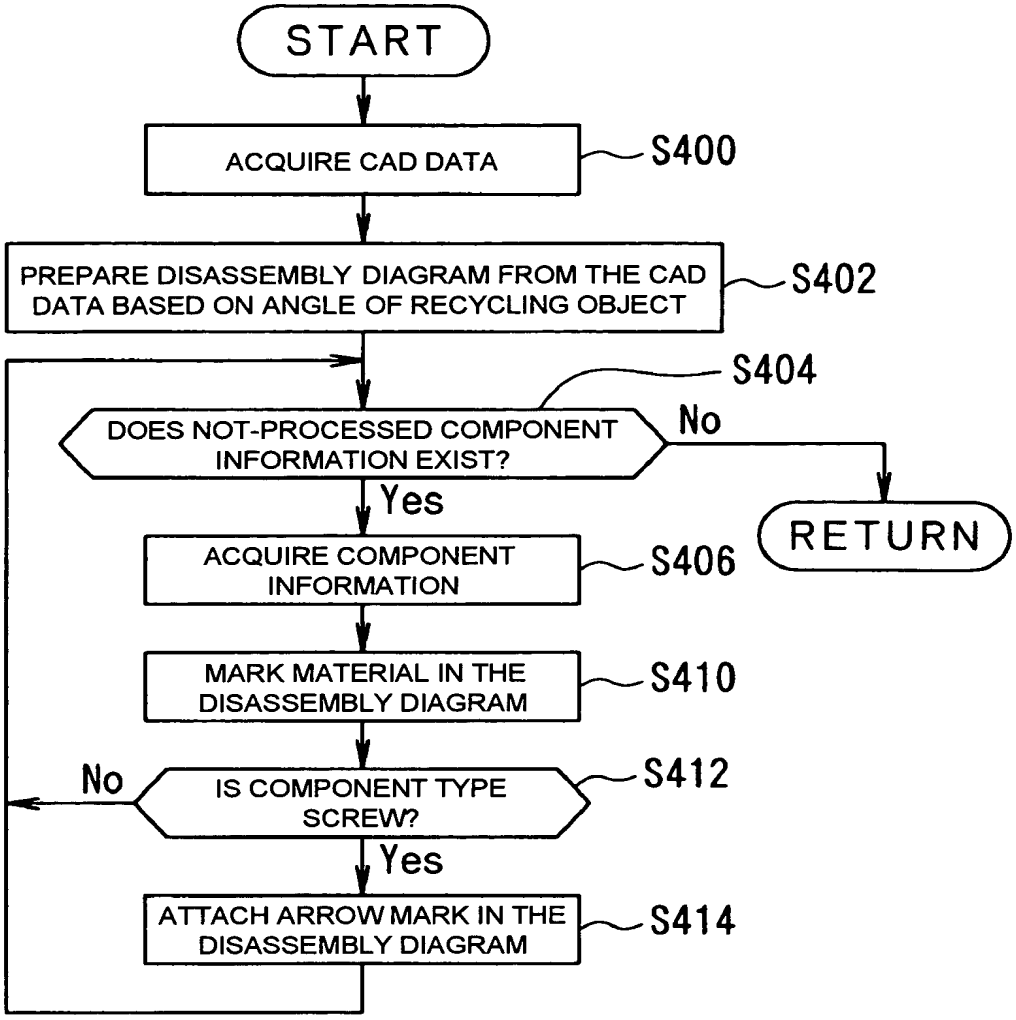
START
ACQUIRE CAD DATA
S400
PREPARE DISASSEMBLY DIAGRAM FROM THE CAD DATA BASED ON ANGLE OF RECYCLING OBJECT
S402
S404
DOES NOT-PROCESSED COMPONENT INFORMATION EXIST?
No
Yes
RETURN
ACQUIRE COMPONENT INFORMATION
S406
MARK MATERIAL IN THE DISASSEMBLY DIAGRAM
S410
No
IS COMPONENT TYPE SCREW?
S412
Yes
ATTACH ARROW MARK IN THE DISASSEMBLY DIAGRAM
S414

FIG. 10

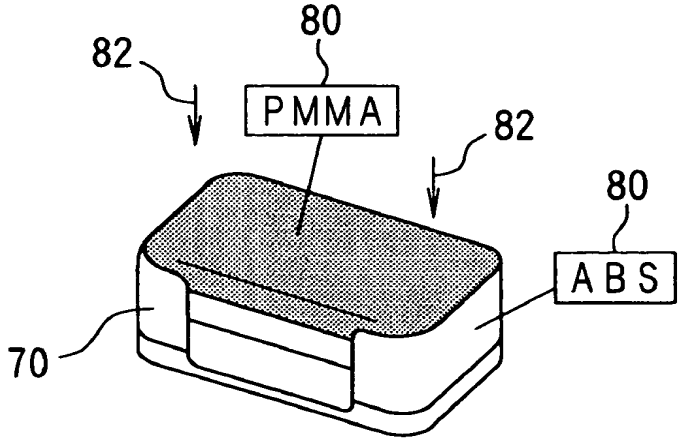
80
82
PMMA
82
80
ABS
70

FIG. 11

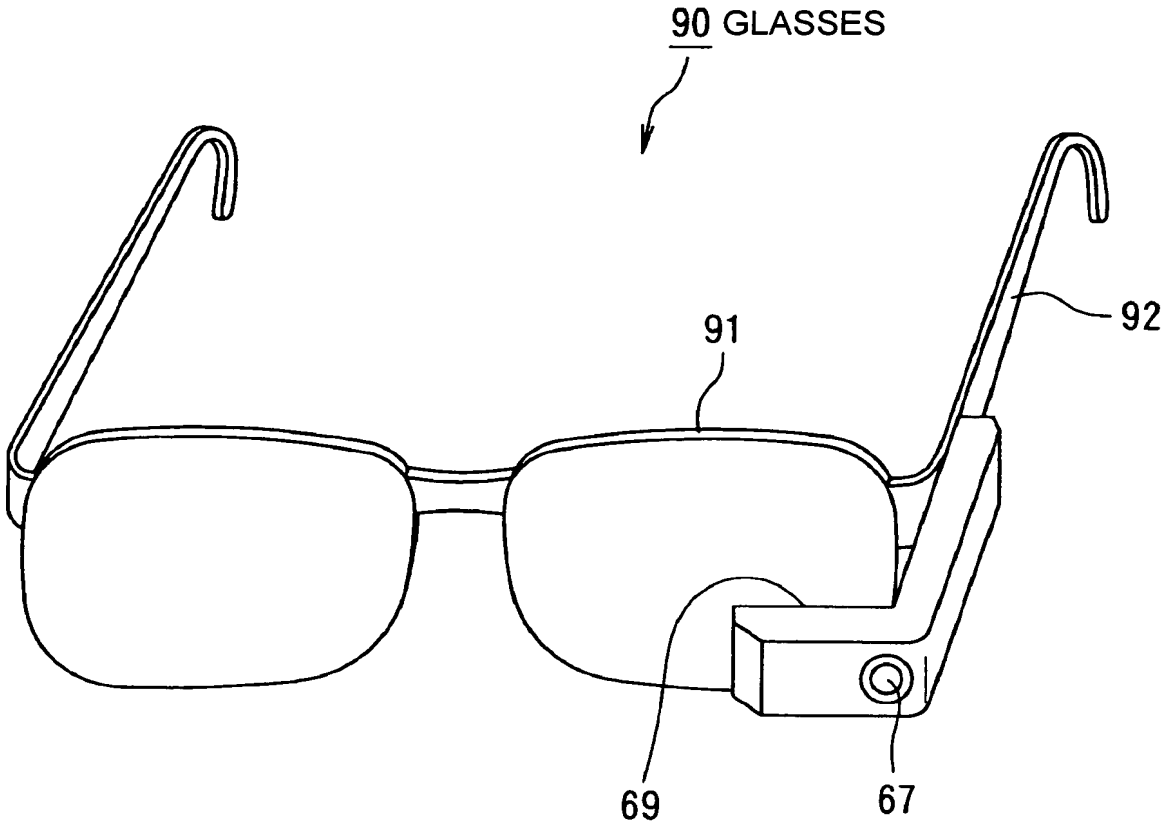

FIG. 12